

FITNESS CHECK



The number one choice for SCBA users throughout the world, LCX® carbon composite cylinders have been designed to deliver outstanding performance and reliability:

- Ultra-lightweight
- Manufactured with the highest-grade materials
- Exceptional strength and durability
- Unmatched safety record
- All cylinders conform to EN 12245 or ISO 11119-2



1 Care and maintenance

Luxfer recommends that these basic maintenance procedures be regularly followed for all Luxfer LCX® composite cylinders:

- Ensure lubricants, if used, and components are compatible with both the cylinder and the gas mixture.
- Keep the inside of the cylinder free from moisture, oil, dirt and other contaminants.
- Avoid completely discharging your cylinder, except for removal of the valve.
- Never artificially heat your cylinder.
- Never remove, obscure or alter cylinder labels or markings.
- For cylinder drying and repainting, see section 8 of the *Luxfer LCX User Manual*.
- Make sure the temperature of your cylinder does not exceed 82°C (180°F). Consider the ambient temperature of the environment in which the cylinder is being used and the duration of cylinder exposure, bearing in mind that brief exposure to a high temperature does not necessarily mean the cylinder has reached that temperature. Any cylinder believed to have reached a temperature of 82°C or higher should immediately be removed from service and sent to an authorized cylinder requalification facility for evaluation before being used again.
- Never use corrosive, caustic or acidic strippers or solvents to remove paint or clean cylinder surfaces.

2 Pre-fill check list

IS THE CYLINDER WITHIN ITS RETEST PERIOD?

Either 5 or 3 years after the test date on the label.

Cylinders manufactured from February 2002 onwards, carrying the CE mark, can automatically be extended to a 5-year retest*.

(*Subject to national regulations)

Cylinders manufactured before this date should be competently inspected at a 3-year interval and, if acceptable, can be extended to a 5-year retest period.

YES

DO NOT FILL!

Cylinder must be retested by a requalification station authorised to test composite cylinders.

See section 5 of the *Luxfer LCX User Manual*.

IS THERE ANY EXTERNAL DAMAGE TO THE CYLINDER?

We recommend an external inspection for damage before each fill.

See section 6 of the *Luxfer LCX User Manual*.

YES

ASSESS THE TYPE OF DAMAGE

1. PHYSICAL DAMAGE
e.g., abrasions, cuts, impact damage, delamination, chemical attack, illegible label.

LEVEL 1 – MINOR

Level 1 Abrasion

Level 1 Cut

Level 1 Impact

Continue with fill - go to step 3.

LEVEL 2 - REPAIRABLE

Level 2 Abrasion

Level 2 Cut

Upon repair, the cylinder must be retested and can then be returned to service.

LEVEL 3 - MAJOR/CONDEMNED

Level 3 Abrasion

Level 3 Cut

Level 3 Impact

Cylinder must be condemned and removed from service!

See section 6 of the *Luxfer LCX User Manual* for more information on damage levels and methods of repair.

2. HEAT DAMAGE

If there is any concern that a cylinder has been heated to or above 82°C for extended periods of time, or if a cylinder shows signs of heat damage, it should be requalified by an authorized retest station.

DO NOT FILL!

See section 5.3 & 6 of the *Luxfer LCX User Manual*.

IS THERE ANY INTERNAL DAMAGE TO THE CYLINDER?

We recommend an internal inspection every 5 years according to EN ISO 11623.

Each cylinder must be inspected internally to national standards or in accordance with EN ISO 11623.

More frequent internal inspection is recommended if cylinders are charged with breathing air that is not dried or cleaned to recommended levels or when water may have been drawn into the cylinder.

REJECT fully wrapped composite cylinders with internal isolated corrosion pit(s) estimated to be deeper than 0.76 mm.

REJECT fully wrapped cylinders with sidewall line and broad-spread corrosion if any interior pit in the line corrosion is deeper than 0.5 mm or if the broad-spread corrosion is deeper than 0.5 mm.

REJECT all fully wrapped cylinders that exhibit bulges or dents on the inside of the liner.

YES

FILL

Go to step 4.

3 What your label tells you

1 M18 2 EN 12245 3 FRANCE 4 LUXFER 5 FIC 12345 6 UN1002

7 4,20KG 8 6,8L 9 FP 300 at 15°C 10 PT/PH 450 BAR 11 Breathing Air

12 P_Smax: 374 BAR at 60°C 13 2003/03 B 08 14 AA6061

15 TS: - 50°C to 60°C 16 FIN 2018/03 17 C E0029

18 LUXFER PN L65C-248

Date of Periodic Inspection

1. Cylinder thread identity

2. Design specification (e.g., EN 12245)

3. Country of manufacture

4. Manufacturer's mark

5. Cylinder serial number

6. UN number (referencing gas content)

7. Empty weight of cylinder

8. Minimum water capacity in litres

9. Filling pressure in bar

10. Test pressure in bar

11. Gas content

12. Maximum developed pressure

13. Date (year and month) of the first hydrostatic pressure test

14. Aluminium alloy of the liner

15. Operating temperature range

16. End-of-life date

17. Mark of conformity and notified body reference number according to the pressure equipment directive (97/23/EC)

18. Luxfer part number

4 Valves

For valving procedures, follow the SCBA manufacturer's recommendations and any requirements in the country in which the cylinder and valve are being used.

Valves should be torqued to a level not to exceed:	<table><tr><th>THREAD</th><th>MAX. TORQUE VALUE</th></tr><tr><td>M18 X 1.5 6H</td><td>100 NM (74 FT LBS)</td></tr><tr><td>0.875-14 UNF</td><td>108.46 NM (80 FT LBS)</td></tr><tr><td>0.750-16 UNF</td><td>101.68 NM (75 FT LBS)</td></tr><tr><td>0.625-18 UNF</td><td>67.7 NM (50 FT LBS)</td></tr></table>	THREAD	MAX. TORQUE VALUE	M18 X 1.5 6H	100 NM (74 FT LBS)	0.875-14 UNF	108.46 NM (80 FT LBS)	0.750-16 UNF	101.68 NM (75 FT LBS)	0.625-18 UNF	67.7 NM (50 FT LBS)
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If the valve must be removed from the cylinder, follow the procedures and guidelines provided by the SCBA manufacturer, or follow the current edition of ISO 25760, *Gas cylinders — Operational procedures for the safe removal of valves from gas cylinders*.

5 Filling

Follow filling procedures recommended by the SCBA manufacturer. Only fill the cylinder with breathable air according to the SCBA manufacturer's recommendations and any air quality requirements in the country in which the cylinder is being used.

PLEASE NOTE: Some movement of the composite material during filling and discharging may cause a crackling noise, which is normal and no reason for concern. In addition, when the cylinder is pressurized, a slight opening in the composite material sometimes appears where the neck meets the shoulder; this is caused by differences in relative expansion of the neck and shoulder composite structures. Since the neck-to-shoulder transition is a low-stress area, such crack-like openings are strictly cosmetic and not a cause for concern.

See section 5.1 of the *Luxfer LCX User Manual*.

Luxfer fully wrapped, carbon composite cylinder

High-performance carbon fibre overwrap in epoxy resin matrix

High-strength fibreglass-reinforced plastic (FRP) protective layer

Precision-machined thread

Lightweight aluminium liner

Smooth, inert, corrosion-resistant internal finish

Please display this poster in a prominent place in SCBA maintenance areas.

Produced by: Luxfer Gas Cylinders. www.luxfercylinders.com • Tel: + 44 (0) 115 980 3800 • Fax: + 44 (0) 115 980 3899

For additional copies of this poster, please contact lifesupport@luxfer.net

ISO 11623:2002 (Transportable gas cylinders – Periodic inspection and testing of composite gas cylinders)

ISO 11119-2:2002 (Gas Cylinders of composite construction – Specifications and Test Methods – Fully wrapped fibre reinforced composite gas cylinders with load-sharing metal liners)